

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Michael E. Fossey et al.                      Art Unit : Unknown  
Serial No. : New Continuation Application              Examiner : Unknown  
Filed : June 24, 2003  
Title : WAFER INSPECTION SYSTEM FOR DISTINGUISHING PITS AND  
PARTICLES

Commissioner for Patents  
Washington, D.C. 20231

**INFORMATION DISCLOSURE STATEMENT**

Under 35 USC §120, this application relies on the earlier filing dates of application serial number 10/301,677, filed on November 22, 2002, 09/906,062, filed on July 17, 2001, serial number 09/624,502, filed July 24, 2000, serial number 08/958,230, filed October 27, 1997, and serial number 08/399,962, filed March 6, 1995. The attached list of references were submitted to and/or cited by the Office in the prior applications and, therefore, are not provided in this application.

This statement is being filed with the application. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: June 24, 2003

  
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| Substitute Form PTO-1449<br>(Modified)   | U.S. Department of Commerce<br>Patent and Trademark Office | Attorney's Docket No.<br>03351-009005 | Application No.<br>Continuation Application |
| <b>Information Disclosure Statement<br/>by Applicant</b><br>(Use several sheets if necessary)<br>(37 CFR §1.98(b)) |  | Applicant<br>Michael E. Fossey et al. |   |
|  |  | Filing Date<br>June 24, 2003          | Group Art Unit                              |

| U.S. Patent Documents |           |               |            |                         |       |          |                            |
|-----------------------|-----------|---------------|------------|-------------------------|-------|----------|----------------------------|
| Examiner Initial      | Desig. ID | Patent Number | Issue Date | Patentee                | Class | Subclass | Filing Date If Appropriate |
|                       | AA        | 3,749,496     | 07/1973    | Hietanen et al.         |       |          |                            |
|                       | AB        | 3,904,293     | 09/1975    | Gee                     |       |          |                            |
|                       | AC        | 4,297,032     | 10/1981    | Temple                  |       |          |                            |
|                       | AD        | 4,314,763     | 02/1982    | Steigmeier et al.       |       |          |                            |
|                       | AE        | 4,441,124     | 04/1984    | Heebner et al.          |       |          |                            |
|                       | AF        | 4,448,527     | 05/1984    | Milana                  |       |          |                            |
|                       | AG        | 4,469,442     | 09/1984    | Reich                   |       |          |                            |
|                       | AH        | 4,505,585     | 03/1985    | Yoshikawa et al.        |       |          |                            |
|                       | AI        | 4,508,450     | 04/1985    | Ohshima et al.          |       |          |                            |
|                       | AJ        | 4,541,712     | 09/1985    | Whitney                 |       |          |                            |
|                       | AK        | 4,630,276     | 12/1986    | Moran                   |       |          |                            |
|                       | AL        | 4,740,708     | 04/1988    | Batchelder              |       |          |                            |
|                       | AM        | 4,764,017     | 08/1988    | Hirvonen                |       |          |                            |
|                       | AN        | 4,794,264     | 12/1988    | Quackenbos et al.       |       |          |                            |
|                       | AO        | 4,794,265     | 12/1988    | Quackenbos et al.       |       |          |                            |
|                       | AP        | 4,875,780     | 10/1989    | Moran                   |       |          |                            |
|                       | AQ        | 4,889,998     | 12/1989    | Hayano et al.           |       |          |                            |
|                       | AR        | 4,893,932     | 01/1990    | Knollenberg             |       |          |                            |
|                       | AS        | 4,898,471     | 02/1990    | Vaught et al.           |       |          |                            |
|                       | AT        | 4,902,131     | 02/1990    | Yamazaki et al.         |       |          |                            |
|                       | AU        | 4,922,308     | 05/1990    | Noguchi et al.          |       |          |                            |
|                       | AV        | 4,933,567     | 06/1990    | Silva et al. (deceased) |       |          |                            |
|                       | AW        | 4,966,457     | 10/1990    | Hayano et al.           |       |          |                            |
|                       | AX        | 4,991,445     | 02/1991    | Le Bail et al.          |       |          |                            |
|                       | AY        | 4,991,964     | 02/1991    | Forgey et al.           |       |          |                            |
|                       | AZ        | 5,030,842     | 07/1991    | Koshinaka et al.        |       |          |                            |
|                       | AAA       | 5,032,734     | 07/1991    | Orazio, Jr. et al.      |       |          |                            |

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| Examiner Signature   | Date Considered |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |                 |

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| U.S. Patent Documents |           |               |            |                   |       |          |                            |
|-----------------------|-----------|---------------|------------|-------------------|-------|----------|----------------------------|
| Examiner Initial      | Desig. ID | Patent Number | Issue Date | Patentee          | Class | Subclass | Filing Date If Appropriate |
|                       | ABB       | 5,067,798     | 11/1991    | Tomoyasu          |       |          |                            |
|                       | ACC       | 5,108,176     | 04/1992    | Malin et al.      |       |          |                            |
|                       | ADD       | 5,125,741     | 06/1992    | Okada et al.      |       |          |                            |
|                       | AEE       | 5,127,726     | 07/1992    | Moran             |       |          |                            |
|                       | AFF       | 5,177,559     | 01/1993    | Batchelder et al. |       |          |                            |
|                       | AGG       | 5,189,481     | 02/1993    | Jann et al.       |       |          |                            |
|                       | AHH       | 5,191,466     | 03/1993    | Gross et al.      |       |          |                            |
|                       | AII       | 5,355,212     | 10/1994    | Wells et al.      |       |          |                            |
|                       | AJJ       | 5,363,187     | 11/1994    | Hagiwara et al.   |       |          |                            |
|                       | AKK       | 5,369,286     | 11/1994    | Cheng             |       |          |                            |
|                       | ALL       | 5,389,794     | 02/1995    | Allen et al.      |       |          |                            |
|                       | AMM       | 5,424,536     | 06/1995    | Moriya            |       |          |                            |
|                       | ANN       | 5,436,464     | 07/1995    | Hayano et al.     |       |          |                            |
|                       | AOO       | 5,461,474     | 10/1995    | Yoshii et al.     |       |          |                            |
|                       | APP       | 5,465,145     | 11/1995    | Nakashige et al.  |       |          |                            |
|                       | AQQ       | 5,486,919     | 01/1996    | Tsuji et al.      |       |          |                            |
|                       | ARR       | 5,585,916     | 12/1996    | Miura et al.      |       |          |                            |
|                       | ASS       | 5,625,193     | 04/1997    | Broude et al.     |       |          |                            |
|                       | ATT       | 5,712,701     | 01/1998    | Clementi et al.   |       |          |                            |
|                       | AUU       | 5,717,485     | 02/1998    | Ito et al.        |       |          |                            |
|                       | AVV       | 5,798,829     | 08/1998    | Vaez-Iravani      |       |          |                            |
|                       | AWW       | 5,883,710     | 03/1999    | Nikoonahad et al. |       |          |                            |
|                       | AXX       | 5,903,342     | 05/1999    | Yatsugake et al.  |       |          |                            |
|                       | AYY       | 5,936,726     | 08/1999    | Takeda et al.     |       |          |                            |
|                       | AZZ       | 6,081,325     | 06/2000    | Leslie et al.     |       |          |                            |
|                       | AAAA      | 6,104,481     | 08/2000    | Sekine et al.     |       |          |                            |
|                       | ABBB      | 6,292,259     | 09/2001    | Fossey et al.     |       |          |                            |

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|  |  | Filing Date<br>June 24, 2003          | Group Art Unit                              |

### Foreign Patent Documents or Published Foreign Patent Applications

| Examiner Initial | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|------------------|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
|                  |           |                 |                  |                          |       |          | Yes         | No |
|                  | ACCC      | 42 27 593 A     | 02/1993          | Germany                  |       |          |             |    |
|                  | ADDD      | 2 321 964 A     | 08/1988          | Great Britain            |       |          |             |    |
|                  | AEEE      | 61-240663       | 10/1986          | Japan                    |       |          |             |    |
|                  | AFFF      | 2-216035        | 08/1990          | Japan                    |       |          |             |    |
|                  | AGGG      | 3-128445        | 05/1991          | Japan                    |       |          |             |    |
|                  | AHHH      | 5-1889          | 01/1993          | Japan                    |       |          |             |    |
|                  | AIII      | 5-118994        | 05/1993          | Japan                    |       |          |             |    |
|                  | AJJJ      | 5-142156        | 06/1993          | Japan                    |       |          |             |    |
|                  | AKKK      | 5-288536        | 11/1993          | Japan                    |       |          |             |    |
|                  | ALLL      | 6-174655        | 06/1994          | Japan                    |       |          |             |    |
|                  | AMMM      | 6-229939        | 08/1994          | Japan                    |       |          |             |    |
|                  | ANNN      | 6-242015        | 09/1994          | Japan                    |       |          |             |    |
|                  | AOOO      | 7-146244        | 06/1995          | Japan                    |       |          |             |    |
|                  | APPP      | 7-146245        | 06/1995          | Japan                    |       |          |             |    |
|                  | AQQQ      | 7-181958        | 09/1995          | Japan                    |       |          |             |    |
|                  | ARRR      | 7-270326        | 10/1995          | Japan                    |       |          |             |    |
|                  | ASSS      | 7-318504        | 12/1995          | Japan                    |       |          |             |    |
|                  | ATTT      | 9-145630        | 06/1997          | Japan                    |       |          |             |    |
|                  | AUUU      | 2661913         | 06/1997          | Japan                    |       |          |             |    |
|                  | AVVV      | 9-210918        | 08/1997          | Japan                    |       |          |             |    |
|                  | AWWW      | 2747921         | 02/1998          | Japan                    |       |          |             |    |
|                  | AXXX      | 10-221268       | 08/1998          | Japan                    |       |          |             |    |
|                  | AYYY      | 10-510359       | 10/1998          | Japan                    |       |          |             |    |
|                  | AZZZ      | 10-282009       | 10/1998          | Japan                    |       |          |             |    |
|                  | AAAAA     | 096987          | 03/1988          | Taiwan                   |       |          |             |    |
|                  | ABBBB     | 94/12867        | 06/1994          | WIPO                     |       |          |             |    |
|                  | ACCCC     | 94/18094        | 06/1996          | WIPO                     |       |          |             |    |

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|---|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
| Examiner Initial  | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|   |           |                 |                  |                          |       |          | Yes         | No |
|   | ADDD      | 97/46865        | 09/1996          | WIPO                     |       |          |             |    |
|   | AEEE      | 96/28721        | 09/1996          | WIPO                     |       |          |             |    |
|   | AAAA      | 97/12226        | 04/1997          | WIPO                     |       |          |             |    |
|   | AGGG      | 99/14574        | 03/1999          | WIPO                     |       |          |             |    |

| Other Documents (include Author, Title, Date, and Place of Publication) |           |  |
|---|-----------|--|
| Examiner Initial  | Desig. ID | Document   |
|   | AHHH      | Bawolek, "Light Scattering by Spherical Particles on Semiconductor Surfaces," 1992 Ph.D. Dissertation at Arizona State University, pp. I-281   |
|   | AIII      | Starr et al., "Comparison of Experimentally Measured Differential Scattering Cross Sections of PSL Spheres on Flat Surfaces and patterned Surfaces," SPIE vol. 2862, (Sep. 1996) pp. 130-138 |
|   | AJJJ      | Wolfe et al., "A Portable Scatterometer for Optical Shop Use," SPIE vol. 675 (1986) pp. 160-165  |
|   | AKKK      | Magee et al., "Near-specular Performance of a Portable Scatterometer," SPIE vol. 675 (1986) pp. 249-259  |
|   | ALLL      | Bickel et al., "The Role of Polarized in the Measurement and Characterization of Scattering," SPIE vol. 679 (1986) pp. 91-98   |
|   | AMMM      | Iafelice et al., "Polarized Light-Scattering Matrix Elements for Select Perfect and Perturbed Optical Surfaces," Applied Optics 26(12) (1987) pp. 2410-2415                                  |
|   | ANNN      | Bickel et al., "Stokes Vectors, Mueller Matrices and Polarized Scattered Light: Experimental Applications to Optical Surfaces and All Other Scatters," SPIE vol. 1530 (1991) pp. 7-14        |
|   | AOOO      | Bickel et al. "Polarized Light Scattering from Metal Surfaces," J. of Applied Physics 61 (12) (1987) pp. 5392-5398   |
|   | APPP      | Kylner et al., "Scattering Signatures of Isolated Surfaces Features," SPIE vol. 1995 (1993) pp. 66-72  |
|   | AQQQ      | TMA Technologies, "TMA QuikScan.RTM.Scatterometer," (1991) Brochure, 4 pages   |
|   | ARRR      | "Manufacturing: Scatterometers Improve Lasers Mirrors," POTONICS SPECTRA vol. 25, Issue 8 (Aug. 1991) p. 100   |
|   | ASSS      | Rifkin et al., "Design Review of a Complete Angle Scatter Instruments," SPIE vol. 1036 (1988) pp. 116-124  |
|   | ATTT      | Stover et al., "Optical Scattering Measurement and Analysis," (1995) Second Edition  |
|   | AUUU      | Wagner et al., "Requirement of Future Measurement Equipment for Silicon Wafers," SPIE vol. 2862 (Sep. 1996) pp. 152-162  |
|   | AVVV      | Nebeker, "Modeling of Light Scattering from Structures with Particle Contaminants," SPIE vol. 2862 (Sep. 1996) pp. 139-150   |
|   | AWWW      | Stover et al. "Measurement and Analysis of Scatter from Silicon Wafers," SPIE vol. 2260 (1994) pp. 182-191   |
|   | AXXX      | Stover et al., "Some Deviations Associated with Vector Perturbation Diffraction Theory," SPIE vol. 511 (1984) pp. 12-17  |

|  |                 |
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| Other Documents (include Author, Title, Date, and Place of Publication) |           |   |
|---|-----------|---|
| Examiner Initial  | Desig. ID | Document  |
|   | AYYYY     | Sasse, "Angular Scattering Measurement and Calculations of Rough Spherically Shaped Carbon Particles" SPIE vol. 2541 (1995) pp. 131-139 |
|   | AZZZZ     | Nee, "Reflection, Scattering, and Polarization from a Very Rough Black Surface," SPIE vol. 1995 (1993) pp. 202-212                      |
|   | AAAAAA    | Church et al., "Scattering by Anisotropic Grains in Beryllium Mirrors," SPIE vol. 1331 (1990) pp. 12-17                                 |
|   | ABBBBB    | Stover, Editor, "Optical Scattering: Applications, Measurement, and Theory II," vol. 1995 (1993), pp. 1-302                             |
|   | ACCCCC    | Videen et al., "Polarized Light Scattered from Rough Surfaces," Opt. Soc. Am. vol. 9, No. 7 (1992), pp. 1111-1118                       |

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